tth

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,239	02/27/2004	Neil Adams	42783-0045	4804

			EXAMINER
23577	7590	01/10/2006	GELIN, JEAN ALLAND

RIDOUT & MAYBEE
SUITE 2400
ONE QUEEN STREET EAST
TORONTO, ON M5C3B1
CANADA

ART UNIT	PAPER NUMBER
2688	

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>27 February 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-21</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-18,20 and 21</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>27 February 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2.   Claims 1-18 and 20-21 are rejected under 35 U.S.C. 102(a) as being anticipated

by Herbert et al. (WO 03/079196 A2).

Regarding claim 1, Herbert teaches a data protection method for software

applications on a mobile electronic device (page 8, lines 17-21), the device having

storage for allocation to respective software applications for data storage (page 7, lines

3-19), including: creating and storing a list of selected software applications operating

on the mobile electronic device (page 8, line 17 to page 9, line 24, page 12, lines 1-23);

notifying the selected software applications of an impending storage cleaning operation

(page 9, line 1 to page 10, line 8); and determining, for each selected software

application receiving the notification, if any storage allocated thereto is to be released

for cleaning during the impending storage cleaning operation and if so releasing the

storage for cleaning (page 10, line 9 to page 11, line 23).

Regarding claim 2, Herbert teaches cleaning the released storage (page 12, lines

1-24).

Regarding claim 3, Herbert teaches the cleaning includes causing a garbage

collector to implement the cleaning operation (page 10, lines 9-24, page 12, lines 1-23).

Regarding claim 4, Herbert teaches wherein an impending storage cleaning

operation can be triggered by any one of a plurality of types of predetermined trigger

events, the method including waiting for one of the plurality of trigger events to occur

prior to the step of notifying the selected software applications of the impending storage

cleaning operation (page 8, line 17 to page 10, line 23).

Regarding claim 5, Herbert teaches wherein the step of notifying includes

identifying for the selected software applications the type of trigger event triggering the

impending storage cleaning operation, at least some of the selected software

applications selectively releasing storage allocated thereto for cleaning based on the

type of trigger event identified (page 8, line 17 to page 10, line 23).

Regarding claim 6, Herbert teaches determining if any of the selected software

applications have indicated that they have released storage for cleaning, and if so,

causing the released storage to be cleaned (page 10, line 9-18).

Regarding claims 7, 11, Herbert teaches wherein at least one of the trigger

events is selected from the group consisting of: a holstering event that occurs when the

device is placed in a corresponding holster; an idle timeout event that occurs when the

device is left idle by a user thereof for a predetermined time period; a synchronization

start event that occurs when the device begins a synchronization operation with a

computer; a synchronization end event that occurs when the device ends the

synchronization operation with the computer; a memory cleaner event that occurs when

a memory cleaning operation is initiated on the device; a time change event that occurs

when a time setting of the device is changed; a device lock event that occurs when the

device is locked; and a power down event that occurs as the device is about to power down (page 8, line 17 to page 9, line 23).

Regarding claim 8, Herbert teaches a mobile electronic device having a plurality of software applications operating thereon, at least some of the applications referencing objects for storing data in memory of the mobile electronic device (page 8, lines 1-23), a method for protecting the data including, in the following order, steps of: registering selected applications (page 10, lines 1-23); notifying the registered applications upon the occurrence of a trigger event (page 10, lines 1-23); unreferencing at least some objects referenced by the registered applications based on the notification (page 10, line 18 to page 11, line 23); and cleaning the memory to remove data stored in any unreferenced objects (page 10, line 1 to page 11, line 23).

Regarding claim 9, Herbert teaches wherein the registered applications are notified upon the occurrence of any one of a plurality of different types of trigger events, and the registered applications are notified of the type of trigger event that has occurred (page 8, line 18 to page 9, line 23).

Regarding claim 10, Herbert teaches wherein in the unreferencing step, at least some of the registered applications selectively unreference objects based on the type of trigger event (page 10, line 18 to page 11, line 23).

Regarding claim 12, Herbert teaches wherein the trigger events can be pre-selected by a user of the device (page 9, lines 4-21).

Regarding claim 13, Herbert teaches, prior to the cleaning step, determining if any objects have been unreferenced by the registered applications, and if not, forgoing the cleaning step (pages 8-9).

Regarding claim 14, Herbert teaches wherein the cleaning step includes calling a wipe function to cause either all zeros, all ones or random data to be written to the unreferenced objects (pages 10-11).

Regarding claim 15, Herbert teaches mobile electronic device (page 3, lines 17-23), comprising: a microprocessor (110); a plurality of software applications operable on the microprocessor (page 4, lines 5-15); a heap memory for storing objects used by the software applications (page 4, lines 6-20); a garbage collector module operable on the microprocessor for cleaning unreferenced objects in the heap memory (pages 4-6); and a memory cleaner module operable on the microprocessor for maintaining a list of registered applications selected from the software applications (pages 6-7), and for notifying at least some of the registered applications upon the occurrence of a trigger event (pages 8-9); the registered applications being responsive to the memory cleaner module for unreferencing at least some of the objects in the heap memory used thereby upon receiving the notification from the memory cleaner module (pages 10-11).

Regarding claim 16, Herbert teaches wherein there are a plurality of different types of trigger events upon the occurrence of any one of which the memory cleaner module notifies the registered applications, the notification including an identification of the type of trigger event (pages 9-10).

Regarding claim 17, Herbert teaches wherein at least one of the trigger events is selected from the group consisting of: a holstering event that occurs when the device is placed in a corresponding holster; an idle timeout event that occurs when the device is left idle by a user thereof for a predetermined time period; a synchronization start event that occurs when the device begins a synchronization operation with a computer; a synchronization end event that occurs when the device ends the synchronization operation with the computer; a memory cleaner event that occurs when a memory cleaning operation is initiated on the device; a time change event that occurs when a time setting of the device is changed; a device lock event that occurs when the device is locked; and a power down event that occurs as the device is about to power down (page 8-10).

Regarding claim 18, Herbert teaches wherein at least some of the registered applications are configured for, upon receiving notification from the memory cleaner module, selectively unreferencing objects referenced thereby based on the type of trigger event (pages 10-11).

Regarding claim 20, Herbert teaches the device includes a display screen, the memory cleaner module being configured for generating on the display screen a user interface identifying the registered applications (pages 16-17).

Regarding claim 21, Herbert teaches at least one of the software applications is configured to automatically register with the memory cleaner module as a registered application when creating a predetermined category of data (pages 10, 12-13).

Allowable Subject Matter

3.   Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Scian et al.	US 2004/0260840	12/23/2004
Pyhalammi	US 2003/0236769	12/25/2003
Tennison et al.	US 2002/0046292	04/18/2002
Corneille et al.	US 2005/0075115	04/07/2005
Singh et al.	US 2003/0147369	08/07/2003
Burke et al.	US 5,406,643	02/11/1993

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean A. Gelin whose telephone number is (571) 272-7842. The examiner can normally be reached on 9:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

JGelin
January 4, 2006

JEAN GELIN
PRIMARY EXAMINER